

**Before the  
UNITED STATES DEPARTMENT OF COMMERCE  
NATIONAL TELECOMMUNICATIONS & INFORMATION ADMINISTRATION  
Washington, DC**

In the Matter of	)	
	)	
Relocation of Federal Systems in the 1710–1755	)	
MHz Frequency Band: Review of the Initial	)	Docket No. 0906231085–91085–01
Implementation of the Commercial Spectrum	)	
Enhancement Act	)	
	)	
Notice Of Inquiry	)	

**COMMENTS OF COMSEARCH**

Comsearch, a CommScope Company, hereby respectfully submits the following comments in the above-captioned Notice Of Inquiry (NOI). Headquartered in Ashburn, Virginia, Comsearch is an independent engineering firm specializing in spectrum management of terrestrial microwave, satellite, and mobile telecommunications systems. In this role, we have gained extensive experience in developing industry-standard coordination and spectrum sharing processes, creating and maintaining state-of-the-art software and databases, performing interference analyses of complex environments, and understanding regulatory requirements.

**BACKGROUND**

Comsearch has been enmeshed in the Commercial Spectrum Enhancement Act (CSEA) since the CSEA was established as law. Through numerous interactions with the FCC and NTIA, we helped establish a framework to operationalize early entry to the 1.7 GHz spectrum before relocation of Federal systems as accommodated in Public Law 108-494:<sup>1</sup>

"(C) AUTHORITY TO ISSUE PRIOR TO DEAUTHORIZATION.--In any auction conducted under the regulations required by subparagraph (A), the Commission may grant a license assigned for the use of eligible frequencies prior to the termination of an eligible Federal entity's

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<sup>1</sup> Title II, Pub. Law No. 108–494, 118 Stat. 3986,47 U.S.C. §§ 309 (j) (3), 921, 923, 928

authorization. However, the Commission shall condition such license by requiring that the licensee cannot cause harmful interference to such Federal entity until such entity's authorization has been terminated by the National Telecommunications and Information Administration."

Leveraging off the processes established for point-to-point microwave frequency coordination<sup>2</sup> and subsequently for coordination of 1.9 GHz Personal Communications Service (PCS) systems and 2.1 GHz Advanced Wireless Service (AWS) systems with incumbent point-to-point microwave systems<sup>3</sup>, the FCC and NTIA described the process of transitional sharing through coordination with incumbent Federal Government operations in the joint Public Notice 06-50 (PN 06-50).<sup>4</sup>

Comsearch made several presentations to the monthly NTIA meetings with affected Federal agencies. The thrust of these presentations and attendant dialog was to discuss:

- Relocation issues
- Transitional sharing processes
- Coordination processes
- TIA Bulletin 10-F interference methodology

Additionally, in conjunction with CTIA – The Wireless Association® (CTIA), we conducted three ½-day Coordination Symposia with Federal Incumbents.<sup>5</sup> Two of these were exclusively for the Federal incumbents, and the third included Federal incumbents and AWS licensees. The purpose of these was to develop processes and procedures in the context of PN 06-50 for coordinating new AWS systems with incumbent Federal spectrum users in the 1.7 GHz band, specifically considering:

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<sup>2</sup> 47 CFR §101.103.

<sup>3</sup> 47 CFR §24.237 and §27.1131.

<sup>4</sup> Federal Communications Commission and NTIA — Coordination Procedures in the 1710–1755 MHz Band, 21 FCC Rcd 4730 (Apr. 20, 2006) (“Joint Public Notice”).

<sup>5</sup> Two Frequency Coordination Symposia were held at CITA headquarters on September 19, 2006 and November 2, 2006. A third open forum was held at CITA headquarters for Federal incumbents and AWS licensees on May 26, 2007.

- Data acquisition
- Data issues
- Interference analysis methodology
- Coordination procedures
- Notification processes

We also held numerous follow-up meetings with specific agencies including DoD, DOE, DOI, DOJ, and DHS to advance the discussion on the above issues. These meetings were both on our own and on behalf of several AWS licensees.

Comsearch worked closely with NTIA staff to analyze and verify the accuracy of the data released pursuant to the CSEA.<sup>6</sup> The initial releases of the data contained numerous errors and inconsistencies. We helped to identify these inaccuracies thereby allowing NTIA to follow up with the controlling Federal agencies to provide corrections. Subsequent data releases contained fewer inaccuracies and inconsistencies as a result of these efforts.

Finally, we worked with the DoD to help identify the processes associated with the portal they developed to streamline the data exchange and coordination process. These processes are more or less consistent with the coordination procedures we have used successfully for over thirty years.

#### COMMENTS

Comsearch recognizes that substantial work has already been undertaken to address lessons learned in spectrum transitions generally, and in the 1.7 GHz transition specifically. In addition to this NOI (and referred to in the NOI), the Commerce Spectrum Management Advisory

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<sup>6</sup> CSEA, § 202, 118 Stat. 3992–93, 47 U.S.C. § 923 (g) (4) (A), (C).

Committee (CSMAC) issued a report on recommendations for improving the process.<sup>7</sup> A bill was also introduced in the House Of Representatives (the Inslee Bill) to reform the CSEA specifically with respect to lessons learned in the 1.7 GHz transition.<sup>8</sup>

Comsearch concurs with the specific findings and recommendations of the CSMAC as listed below and makes additional comments:<sup>9</sup>

### Findings

- The CSEA was an innovative improvement in the process of reallocation of spectrum assigned to the Federal Government;

Comment: The CSEA was unprecedented in establishing high-level processes that previously had never been undertaken by either Federal incumbents or commercial entities.

- Incumbent wireless users lack incentives to identify spectrum for reallocation and sharing;
- Non-Federal users do not appreciate/understand how Federal spectrum is being used. This is in part due to the limited information provided by the Federal agencies as part of the relocation process. A lack of sufficient information increases the risk to potential bidders and therefore can lead to lower bids or to unfulfilled expectations of auction winners. At the same time, some information about agency operations cannot be made available;

Comment: We would argue that this is due *primarily* to a lack of information provided by Federal agencies. As indicated above, we undertook efforts early in the process to learn about spectrum usage scenarios. While the NTIA was exceptionally helpful, we found that a lack of

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<sup>7</sup> Commerce Spectrum Management Advisory Committee (“CSMAC”): “Recommendations for Improving the Process for Identifying Spectrum for Future Reallocation or Sharing,” (Aug. 22, 2008)

<sup>8</sup> 111 HR 3019 IH: Spectrum Relocation Improvement Act of 2009 U.S., June 24, 2009 (HR 3019). See remarks of the Hon. Jay Inslee (W), “While relocation practices and procedures worked well for 10 of the 12 agencies involved, unforeseen problems affecting some agencies took more than a year to resolve and threatened to undermine the spectrum relocation process that the House Energy & Commerce Committee, the Department of Commerce, and the Office of Management and Budget worked for several years to implement. This bill is designed to improve the relocation process for all parties involved and address the problems that surfaced during the AWS relocation process.”

<sup>9</sup> CSMAC Reallocation Report, *supra* at 2–4.

data on equipment types, emission bandwidths, operational parameters, etc. made it exceedingly difficult to effectively understand how the Federal spectrum was being used. This situation could be improved by institutionalizing a proactive audit and inventory requirement on the agencies that would include the capture of technical and administrative data.

- Government entities generally do not have discretionary staff to dedicate to address relocation issues — this contributes to delay and frustration from entities seeking access to the spectrum prior to complete relocation of Federal systems (i.e., access on a rolling basis prior to the estimated date for full relocation);

Comment: We found this varied among agencies. While some indicated they were not able to address *any* relocation issues before the Spectrum Relocation Fund (SRF) monies had been disbursed, other agencies had developed processes and procedures reflecting all the requirements of PN 06-50. Funding to support relocation assessment by agencies prior to an auction would facilitate broader and more active participation in transitional sharing issues.

- Although NTIA and OMB provide guidance to the agencies with respect to the relocation process, each agency develops its own tailored approach to determining relocation cost and time estimates and in responding to requests for coordination of early entrance by auction winners. These approaches are not uniform.

Comment: In addition to being not uniform, they did not reflect an understanding of AWS licensees' desire for early access. For example, through extensive research, we learned that the timeframe and costs for relocation of analog surveillance systems out of the 1.7 GHz band were based upon the availability of new, unavailable digital systems. We learned that analog options were available outside of the 1,7 GHz AWS band, but that these options had not been considered. In addition, no information was provided in the initial release of data on the number of these systems deployable throughout the U.S. We subsequently learned that there were thousands of devices that could be deployed anywhere at any time throughout the U.S. We also learned that these device could have receive bandwidths up to 30 MHz

## Recommendations

- The timeline of the relocation process should be clearly defined and consistently applied;

Comment: We would request that when agencies determine relocation timelines, they consider the absolute minimum amount of time required consistent with commercial entities' need for early entrance. We suggest that industry meetings such as those described above could be convened as early in the process as possible, and would be fruitful in helping to mutually develop timelines.

- Improve information dissemination prior to reallocation/auction/sharing so that potential applicants for spectrum will have a clear understanding of the technical requirements and needs of incumbents. This would also allow parties interested in sharing to have a better understanding of Federal Government needs. For example, commercial entities must have sufficient information to fully understand the scope of the Federal operations and whether commercial deployments will be possible before the Federal operations are fully relocated;

Comment: As indicated above, hold joint industry/government meetings regularly to share data and develop expectations. In addition, the Inslee Bill makes the following requirements that we agree with:<sup>10</sup>

“Not later than 60 days after the date on which the NTIA, on behalf of eligible Federal entities and after review by OMB, notifies the Commission of estimated relocation costs and timelines for such relocation..., NTIA shall post on its website detailed transition plans from each of the eligible Federal entities. Each Federal entity's transition plan shall provide the public with the following information about its spectrum relocation requirements:

- (i) Current use of the spectrum.
- (ii) Geographic location of the Federal entities' facilities or systems.
- (iii) Frequency bands used by such facilities or systems, described by geographic location.
- (iv) The steps to be taken by the Federal entity to relocate its current spectrum uses from the eligible frequencies, detailed according to timelines for specific geographic locations in sufficient detail to indicate when use of such frequencies at specific locations will be shared between the Federal entity and the commercial licensee.
- (v) The specific interactions between eligible Federal entities and NTIA needed to implement the transition plan.

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<sup>10</sup> HR 3019 *supra*

- (vi) The professional staff, including managers, who are responsible for the Federal entity's relocation efforts and who are authorized to meet and negotiate with commercial licensees regarding the relocation process.
- (vii) The Federal entity's plans and timeline for using relocation funds received from the Spectrum Relocation Fund.
- (viii) The Federal entity's plans and timeline for procuring new equipment and additional personnel needed for the relocation.
- (ix) The Federal entity's plans and timeline for field-testing and deploying new equipment needed in the relocation.
- (x) The Federal entity's plans and timeline for hiring and relying on contract personnel, if any.
- (xi) Risk factors in the relocation process that could affect the Federal entity's fulfillment of its transition plan.”

- Use the portal established by the Department of Defense (“DoD”) as the baseline model for exchanging information between Federal Government and commercial entities regarding relocation issues;
- Develop secure on-line capabilities that will allow, where feasible, for virtually instantaneous coordination between Federal and non-Federal systems operating on frequencies identified for relocation or sharing;

Comment: While the DoD portal improved the coordination process, it was used by only two agencies: DoD and DOJ. We recommend that the portal concept be mandated across all agencies through the Federal Spectrum Clearinghouse or NTIA as described.

We also note that the DoD portal is one of several web-based, interactive tools to facilitate information sharing. The CSMAC refers to another portal in their Transition Report that is used to perform frequency coordinations in the Federal-shared 70 – 80 – 90 GHz band.<sup>11</sup> This portal performs a blind interaction with NTIA to identify potential issues in Federal spectrum.

- Oversight responsibility for the relocation of Federal Government systems should be centralized;

Comment: We strongly agree that AWS 1.7 GHz relocation process along with future relocation processes could be infinitely improved through a centralized Federal Spectrum Clearinghouse,

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<sup>11</sup> Commerce Spectrum Management Advisory Committee: “Transition Report,” (Dec. 13, 2008) at 30 and 34.

such as the NTIA.. However, we also suggest that more oversight and authority to manage and control the process is required. This clearinghouse could work with commercial entities who have adequate security clearances to protect data on sensitive classified systems. This entity could also centralize the review of denied early access requests, and establish a dispute resolution process.

- Funds should be allocated for agencies to hire temporary personnel solely to address a relocation process;

Comment: To the extent that these funds could be replenished from auction proceeds, we would suggest that agencies need clear and timely guidance from OMB on the steps and procedures for accessing these funds.

- To facilitate the process, interim spectrum clearing benchmarks (measured by spectrum, geography, or a similar metric) could be established to facilitate the deployment of commercial systems during the relocation process.

Comment: These benchmarks could be established through the direct interaction between Federal agencies and commercial entities under the auspices of the Federal Spectrum Clearinghouse mentioned above.

- Incentives should be created to spur agencies to promptly clear spectrum bands identified for reallocation to other uses.

Comment: Agencies should coordinate band clearing activities with each other and with commercial entities' needs. Access to the spectrum has generally been limited by the slowest clearing agency. Agencies should cooperate to identify key areas to be promptly relocated based upon coordination with commercial entities roll-out plans. It doesn't really help for one agency to quickly relocate if several are still in the band.

In addition, agencies should receive incentives for actively considering early entry spectrum sharing proposals. The Inslee bill takes this concept somewhat further by limiting eligibility for SRF monies to those agencies who actively work with commercial entities on early entry sharing efforts:<sup>12</sup>

(f) Eligibility for Payment of Relocation Costs-

(1) SPECTRUM SHARING- To be eligible to receive payment for relocation costs from the Spectrum Relocation Fund, a Federal entity must--

(A) in its transition plan for relocating its current spectrum uses, provide, to the fullest extent possible, for sharing and coordination of eligible frequencies with commercial licensees, including reasonable accommodation by the Federal entity for the use of eligible frequencies by the commercial licensee during the period that the Federal entity is relocating its spectrum uses (in this subsection referred to as the `transition period');

(B) during the transition period, make itself available, within 30 days after a written request, for negotiation and discussion with commercial licensees; and

(C) during the transition period, make available to a commercial licensee with appropriate security clearances any `classified information' as that term is defined in section 798(b) of title 18, United States Code, regarding the relocation process, on a need-to-know basis, to assist the commercial licensee in the relocation process with that Federal entity or other Federal entities.

We believe the prescriptions in the Bill dictate what we would consider a minimum level of cooperation needed to effectively share spectrum and permit early access.

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<sup>12</sup> HR 3019 *supra*

SUMMARY

It is worth noting that for the most part, the relocation of Federal systems in the 1.7 GHz AWS band sufficient to permit AWS licensees' access to the spectrum has been generally successful. However, this is due to hard work on the part of all stakeholders, and has taken much longer than AWS licensees might like. We sincerely hope these lessons learned can be used to streamline the process in the future. Specifically, we believe that a Federal Spectrum Clearinghouse, either the NTIA or another entity, empowered and properly outfitted to work between Federal agencies and commercial entities is the proper approach for future shared use of valuable spectrum resources.

Respectfully Submitted,

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